1 Interview Summaries

1.1 Department of Conservation (DOC)

Interview Type	Personal, State Agency
Interview Location	DOC Office, 266 Water Street, Augusta
Interview Date	October 23, 2001
Summary Date	December 23, 2001
Interviewer	AGI / Richard Sutton (rs@appgeo.com)
Interviewed:	

Greg Miller, Maine Forest Service, greg.t.miller@state.me.us
Dan Coker, Maine Natural Areas Program, dan.r.coker@state.me.us
Ellen Jackson, Land Use Regulation Commission, ellen.jackson@state.me.us
Gena Denis, Bureau of Parks and Lands, gena.denis@state.me.us

Staff Size (approx)	412
Budget (approx)	$45,000,000
URL:	http://www.state.me.us/doc/

1.1.1 Agency Overview

The Department of Conservation is a natural resource agency whose bureaus oversee the management, development and protection of significant land area of the State of Maine. Through its bureaus, DOC oversees 17 million acres of forestland and 10.4 million acres of unorganized territory. DOC also manages 47 parks and historic sites and more than 480,000 acres of public reserved land.

Created in 1973, the Department of Conservation's mission is to benefit the citizens, landowners, and users of the state's natural resources by promoting stewardship and ensuring responsible balanced use of Maine's land, forest, water, and mineral resources. DOC acts through four primary bureaus: Geology and Natural Areas, Parks and Lands, the Land Use Regulation Commission. While all utilize GIS in varying capacities, the bureaus do not share the same physical space or work in a common software environment.

1.1.2 GIS Initiatives

1.1.2.1 Overview of GIS Utilization

DOC uses GIS extensively but not in a fully mature or integrated fashion. The Maine Geological Survey (under the Bureau of Geology and Natural Areas) produces high quality maps and publications, primarily using command line ArcInfo, at numerous scales and resolutions. The Natural Areas Program uses ArcInfo and ArcView to direct field staff and coordinate activities with other agencies and external collaborators such as The Nature Conservancy. The Forest Service similarly guides its regional staff with the use of desktop GIS for capturing insect infestation and fire information. The Land Use Regulation Commission is undertaking to automate all parcels in the millions of acres of Maine's townships, plantations and unorganized areas. And the Bureau of Parks and

Lands uses MapInfo for everything from forest stand typing to management of navigational buoys.

1.1.2.2 GIS Operating Environment and Infrastructure

The DOC currently maintains a large number of GIS licenses in both MapInfo and ESRI software environments. These include:

Bureau of Parks and Lands

- (8) MapInfo licenses
- (2) MapInfo Vertical Mapper licenses)

Maine Forest Service

- ArcView licenses in (9) district offices
- (1) ArcInfo license

Natural Areas Program

- (2) ArcInfo 8.0 licenses by Natural Areas Progam
- (5) ArcView 3.2 licenses

Maine Geological Survey

- ArcInfo licenses for map production

Land Use Regulation Commission

- ArcMap 8.1 for land records mapping (application currently under contract with Northern Geomantics)
- Citrix Access to ESRI products in Regional Offices

1.1.2.3 GIS Data Resources and Requirements

1.1.2.3.1 Spatial Data

Existing data sets include:

- MeGIS base layers
- Forestry management and standtyping layers
- Facilities management information (BP&L)
- Snow mobile trails (BP&L)
- Navigational buoys (BP&L)
- Structures, Roads, Gates, equipment locations (MFS): collected by rangers in each of the 9 MFS districts. All have MeGIS base data to work from.
- Bedrock (MGS) Sent to MeGIS as completed, with metadata
- Surficial Geology (MGS) Sent to MeGIS as completed, with metadata
- Beach erosion (MGS) Sent to MeGIS as completed, with metadata

Currently unavailable but desired data sets include:

- Statewide stand type maps (1:24,000 or larger scale). Best usable data are GAP project products (30Meter resolution) from the mid 1990s.
- Fire control and hazard layers. Presently updated on a 5 year cycle. This is inadequate for many applications.
- Insect and disease infestation layers. Presently updated on a 5 year cycle.

- Conservation Lands: Best available is 1:100,000 scale layer maintained by Dick Kelly in the State Planning Office. This layer is scheduled for enhancement in 2002 under a Statewide Comprehensive Outdoor Recreation (SCORP) grant.
- Improved Streams datalayer: presently in production under the USGS/MeGIS National Hydrography Database standards (1:24,000) grant. Expected completion date is within 2 years.
- Improved land cover data: using GAP 30Meter.
- Digital elevation models (statewide)
- Digital orthoquads (statewide)
- Parcel / ownership data that is current and dependable

1.1.2.3.2 Attribute Data

- Coastal Islands Registry Database (CIREG): database containing ownership information for 600+ islands off the Maine coast.

1.1.2.4 GIS Applications and Application Requirements

Applications vary across the bureaus.

- MGS has developed sophisticated tools in ArcInfo for populating databases and publishing atlas maps. These number in the thousands and are made available for sale to the public ($5-$6/map). Field maps are interpreted and digitized (resulting in large savings over traditional map production methods). MGS is in the process of migrating into Arc8 technology, currently uses AML driven process for production. All maps are produced by plotters on demand, not mass-produced from offset separates. Significant portions of the state remain unmapped.
- NAP uses GIS to direct field work, mapping exemplary natural features and rare plants and assisting in environmental reviews and permitting. Data is exchanged with The Nature Conservancy supporting the Biological and Conservation Data System (BCD) and more recently the BIOTICS system, tracking species and community types, as well as local information about specific occurrences of individual elements.
- Bureau of Parks and Lands generates lake basin maps that are made available for sale by local merchants. These contain navigational buoy locations, depths and reference features and are used statewide. Foresters in the BP&L field offices also serve as part time mapping technicians, using primarily small data sets to collect and monitor land features.
- Maine Forest Service uses GPS to capture fire occurrences within the state to +/- 30 foot accuracy. Also roads and structures data for E-911and locations of gates on private roads.

Planned future GIS activity and applications:

- Ongoing completion of bedrock, surficial geology and aquifer data statewide (MGS).
- Full migration to Arc8 production environment (MGS)

1.1.3 Other Relevant Issues

- The MapInfo / ESRI division presents some thorny problems with the department. MapInfo serves the Bureau of Parks and Lands in an affordable and dependable way. There is an explicit reluctance to move to an ESRI environment. But there is also a dissatisfaction with the impediments the predominantly ESRI data distribution structure introduces.
- The large landowners in the unorganized territory do not contribute their data to the DOC for its analysis and monitoring purposes. Wagner, Meade, Irving, Seven Islands (most cooperative) and Plum Creek own vast tracts of land under LURC jurisdiction and maintain orthophotography and stand-typing information privately. This would be of significant use to DOC for insect, fire and sensitive habitats tracking purposes. It is unlikely that these companies will make this data available for public use.
- There is a generally perceived need for significant additional technical assistance and application support by GIS users in DOC. MeGIS is recognized to be underfunded and overextended, and is unable in many cases to deliver necessary assistance to move mapping and analysis projects along. While MeGIS has capably handled technical issues in areas such as Citrix deployment, there are unanswered variables regarding pricing structure and ongoing technical support. There is also reluctance on the part of some of the bureaus to warehouse DOC data at MeGIS without enhancements being made to data management, maintenance and distribution practices there.
- Inadequate funding is a perennial issue. The Natural Areas Program with its staff of 8 is almost entirely grant funded. This makes year to year operations insecure and inhibits long term planning and project implementation.
- Based on the perception that the prices DOC pays for its ESRI software are too high, there is a general sense that DOC and the State of Maine as a whole is not doing its best to leverage a better enterprise-wide licensing deal.

1.1.4 Major Benefits and Cost Justification

Access to current, ever-improving spatial data from a single distribution point will make management of DOC's GIS more efficient and dependable going forward. Integrating GIS into more of the business functions and posted publications will aid the usefulness of large quantities of DOC data, but will not happen until data is more consistent and accessible.

Facilitating easier data access to MapInfo users (or providing adequate incentive to convert them to ESRI products) will result in easier data exchange within and outside of the department.

Better data would be of huge assistance on many fronts. NAP works under notification requirements that stipulate landowners must be contacted when parts of their properties are listed as exceptional or sensitive. Availability of ownership data could eliminate hundreds of hours of labor in generation of automated owner and abutter lists.

Providing access to ongoing technical help will accelerate GIS development in all of the bureaus more than any other identified input.